

What is claimed is:

1. An extrusion molding apparatus for a ceramic molded product, comprising a shaping die for producing a ceramic molded product and a screw extruder having built  
5 therein an extruding screw for mixing and leading a ceramic material forward,

wherein said extruding screw includes a pressing screw portion for pressing said ceramic material toward said shaping die and a dispersing screw portion  
10 arranged on the same axis as said pressing screw portion adjacently to the forward end of said pressing screw portion,

wherein said pressing screw portion assumes the shape of a ridge spirally formed in an axial direction and includes at least one thread of a first  
15 lead having a first lead surface facing forward,

wherein said dispersing screw portion assumes the shape of a ridge spirally formed in an axial direction and includes at least one thread of a second  
20 lead having a second lead surface facing forward, and

wherein a gap is formed in a peripheral direction between the rear ends of all of said second lead surfaces at the rear end of said dispersing screw portion and the forward end of said first lead surface at  
25 said forward end of said pressing screw portion.

2. An extrusion molding apparatus for a ceramic molded product, according to claim 1,

wherein said dispersing screw portion includes a thread of said second lead displaced by 10 to  
30 350 degrees in the peripheral direction of rotation of said extruding screw with reference to the position where said second lead surface at said rear end and any of said first lead surfaces at said forward end of said first  
lead peripherally coincide with each other.

3. An extrusion molding apparatus for a ceramic molded product, according to claim 1,

wherein said dispersing screw portion

includes two threads of said second leads displaced by 10 to 170 degrees in the peripheral direction of rotation of said extruding screw with reference to the position where any of said second lead surfaces at said rear end and any of said first lead surfaces at said forward end of said first lead peripherally coincide with each other.

5 4. An extrusion molding apparatus for a ceramic molded product, according to claim 1,  
wherein said dispersing screw portion  
10 includes three threads of said second lead displaced by 10 to 110 degrees in the peripheral direction of rotation of said extruding screw with reference to the position where any of said second lead surfaces at said rear end and any of said first lead surfaces at said forward end  
15 of said first lead peripherally coincide with each other.

5. An extrusion molding apparatus for a ceramic molded product, according to claim 1,  
wherein said shaping die is for producing  
20 a ceramic molded product having a honeycombed structure in which partitioning walls forming a multiplicity of cells communicating through in an axial direction are arranged in the form of honeycomb, and the thickness of said partitioning walls of said ceramic molded product is not larger than 100  $\mu\text{m}$ .

25 6. An extrusion molding apparatus for a ceramic molded product, according to claim 1,  
wherein said shaping die is for producing  
a sheet-like ceramic molded product, and the thickness of  
said partitioning walls of said ceramic molded product is  
30 not larger than 100  $\mu\text{m}$ .

7. An extrusion molding apparatus for a ceramic molded product, comprising a shaping die for producing a ceramic molded product and a screw extruder having built therein an extruding screw for mixing and leading a  
35 ceramic material forward,

wherein said extruding screw includes a

pressing screw portion for pressing said ceramic material toward said shaping die and a dispersing screw portion arranged on the same axis as said pressing screw portion adjacently to the forward end of said pressing screw portion,

wherein said pressing screw portion assumes the shape of a ridge spirally formed in an axial direction and includes at least one thread of a first lead having a first lead surface facing forward,

wherein said dispersing screw portion assumes the shape of a ridge spirally formed in an axial direction and includes at least one thread of a second lead having a second lead surface facing forward, and

wherein at least a part of the surface of said dispersing screw portion has at least a differently-shaped portion having a shape different to the surrounding area.

8. An extrusion molding apparatus for a ceramic molded product, according to claim 7,

wherein said differently-shaped portion is a selected one of a protrusion higher than the surrounding area and a depression deeper than the surrounding area.

9. An extrusion molding apparatus for a ceramic molded product, according to claim 7,

wherein said differently-shaped portion is arranged at least on said second lead surface.

10. An extrusion molding apparatus for a ceramic molded product, according to claim 7,

wherein said differently-shaped portion is a through-hole which opens to said second lead surface of said second lead on the one hand and opens to the reverse side of said second lead through said second lead on the other hand.

11. An extrusion molding apparatus for a ceramic molded product, according to claim 7,

wherein said shaping die is for producing

a ceramic molded product having a honeycombed structure in which partitioning walls, forming a multiplicity of cells communicating through in an axial direction, are arranged in the form of honeycomb, and the thickness of  
5 said partitioning walls of said ceramic molded product is not larger than 100  $\mu\text{m}$ .

12. An extrusion molding apparatus for a ceramic molded product, according to claim 7,  
wherein said shaping die is for producing  
10 a sheet-like ceramic molded product, and the thickness of said ceramic molded product is not larger than 100  $\mu\text{m}$ .